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ABSTRACT

This paper examines the effectiveness of a universal school-based prevention program designed to increase coping resources in preadolescents through the modeling and teaching of optimistic thinking skills in response to real and hypothetical events. Six classroom teachers implemented the program in grades five and six within the regular school curriculum. Pre- and post-program questionnaires were completed on self-efficacy, coping, and attributional style. Children reported significant improvements in optimistic thinking and self-efficacy, as well as a reduction in the use of non-productive coping strategies of worry, wishful thinking, not coping, ignoring the problem, and self-blame after participation in the program. The results support the feasibility of implementing low-cost, non-intrusive programs in school settings that address the emotional health of all young people. By teaching children to think more optimistically, they also learn to use fewer maladaptive coping strategies. (Contains 42 references.) (Author/JDM)

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The development of coping resources in pre-adolescence within the context of whole-school curriculum.

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Abstract

This study examined the effectiveness of a universal school-based prevention program that was designed to increase coping resources in preadolescents through the modeling and teaching of optimistic thinking skills in response to real and hypothetical events. Six classroom teachers implemented the eight-week program in their Year 5 and 6 class groups within their regular school curricula. Pre- and post-program questionnaires on self-efficacy, coping and attributional style were completed by 87 students. After participating in the program, children reported significant improvements in optimistic thinking and self-efficacy, as well as a reduction in the use of the non-productive coping strategies of worry, wishful thinking, not coping, ignoring the problem and self-blame. These results support the feasibility of implementing low-cost, non-intrusive programs in school settings that address the emotional health of all young people. Support is also provided for theories that suggest attributions for events influence the selection of coping strategies.

Reports in the literature have repeatedly expressed concern over the high levels of psychological distress in young people (Cunningham & Walker, 1999; Petersen et al., 1993; Resnick et al., 1997; Roberts, 1999). For example, a nationally representative sample in the United States involving over 12,000 adolescents, indicated that 18.4 percent of 9th- through 12th- grade adolescents experienced significant emotional distress (Resnick et al., 1997). While estimates vary considerably, it is probable that at any given time approximately one-third of young people may be experiencing difficulties in psychological functioning to such an extent as to interfere with their academic and psychosocial development (Cunningham & Walker, 1999; Compas & Hammen, 1994; Roeser, 1998). Given the pervasiveness of the problem, it is critical to address the associated and predisposing factors of these states. Furthermore, intervention programs that concentrate only on high-risk individuals are not feasible in reaching the needs of many children and adolescents who might benefit from such programs. In a report recently published in The Medical Journal of Australia, Rosenman (1998) argued strongly that health promotion programs reducing overall risk in whole populations were urgently needed. Roberts (1999) further suggested that such programs should be implemented as preventive programs in late childhood in order to offset marked increases in psychological problems after puberty.

In essence, problems in psychological functioning reflect difficulties in coping with the concerns and stresses of everyday living (Frydenberg, 1977). Coping strategies are frequently grouped into coping styles that may be broadly considered as either adaptive or maladaptive (Ebata & Moos, 1991; Folkman & Lazarus, 1985;

Frydenberg, 1997). There is convincing evidence that coping styles are important predictors of distress. Studies with adolescents have consistently found that depression is inversely associated with productive or problem-focused coping, and positively associated with avoidance or non-productive coping (Cunningham & Walker, 1999; Ebata & Moos, 1991; Garmezy, 1994; Glyshaw, Cohen, & Towbes, 1989; Seiffge-Krenke, 1993) even in situations that are perceived as unchangeable (Conway & Terry, 1992). In a study involving 115 Year 9 students, Cunningham and Walker found a significant interaction effect between self-reported coping styles and depression scores using the Adolescent Coping Scale (Frydenberg & Lewis, 1993) and the Children's Depression Inventory (Kovacs, 1992). Low self-reported used of problem-focused or productive coping strategies was associated with high depression scores *only* when students also reported high utilization of non-productive or avoidance coping strategies. They suggested that future preventive interventions should focus more on the reduction of maladaptive coping strategies rather than the more common goal of increasing problem-focused coping.

A key factor that differentiates people who cope effectively from those who may not is their attributional style (Gladstone & Kaslow, 1995). Seligman (1995) suggested that children's attributions for events are habitual by the time a child is about nine years old, unless such a style is challenged. When faced with negative events, children who exhibit a pessimistic attributional style perceive the event as permanent in time (stable), and global in effect. Furthermore, they frequently believe that they are personally at fault because of some characteristic about themselves (internal). In contrast, an optimistic attributional style is characterized by explaining

bad events as temporary and limited to the specific event, for which there are many possible causes beyond oneself. When positive events happen, the attributional pattern is reversed. Pessimists interpret positive events as temporary, specific, and caused by good luck, while optimists believe positive events are permanent, pervasive and caused by themselves (Nolen-Hoeksema, Girgus, & Seligman, 1986). In a meta-analysis examining the relationship between attributional style and depression in children, Gladstone and Kaslow (1995) found consistent evidence that higher levels of depressive symptoms were associated with a more pessimistic attributional style consisting of internal-stable-global attributions for negative outcomes and external-unstable-specific attributions for positive outcomes.

Relationships between attributional and coping styles might be expected given that both constructs have independently reported consistent empirical associations with depression and other indices of emotional distress. In one of few studies reporting direct associations between attributions and coping, Bruder-Mattson and Hovanitz (1990) found that a pessimistic attributional style for negative events was positively associated with a maladaptive emotion-focused coping style in their sample of 176 college students. Positive associations between problem-focused coping and stable and global attributions for positive events were found only for men. From a theoretical perspective, it would seem that attributing causation would precede the choice of coping strategies, perhaps determining that choice through influencing the appraisal process (Bruder-Mattson & Hovanitz). If such a pattern were the case, it would be expected that changing attributional style should effect changes in coping.

In a review of prevention intervention programs for young people, Roberts (1999) concluded that universal programs were virtually non-existent. Nonetheless, a number of published studies have reported positive outcomes for programs which promote healthy development in selected groups of young people (e.g., Compas, 1995; Dadds, Spence, Holland, Barrett, & Laurens, 1997; Jaycox, Reivich, Gillham, & Seligman, 1994; Clarke et al., 1993; 1995). The usual mode of delivery of such programs is via external facilitators implementing interventions programs to targeted groups of individuals. For example, Jaycox et al. (1994) implemented a program designed to teach optimistic thinking and social problem-solving skills to a group of depressed pre-adolescents. Compared to a wait-list control, significant improvements in optimistic thinking and decreased levels of depressive symptoms were found two-years post-program (Gillham, Reivich, Jaycox, & Seligman, 1995). Brandon, Cunningham and Frydenberg (1999) also found that children who exhibited a negative attributional style made significant gains in developing a more adaptive attributional style following participation in a program designed to teach optimistic thinking skills.

Given the dearth of universal preventive programs, some successful targeted programs may be equally appropriate for broader populations. Furthermore, if universal health promotion programs are to be implemented on a larger scale, the relative efficacy of teachers implementing such programs and the potential benefits that might be derived from the frequent modeling and practice of program skills in classroom have yet to be established. The aim of this study is to evaluate the effectiveness of teachers implementing a program on optimistic thinking skills within their regular curriculum to whole class groups. The program is the same program that was used in the Brandon et

al. (1999) study, except for some adaptations that make the program more suitable for classroom use. In addition to measures of coping and attributional style, self-efficacy or perceived control over one's thoughts, feelings and behaviors will also be examined. It has been suggested that self-efficacy beliefs are central to determining how coping resources are managed (Hobfoll et al., 1994), and a fundamental mechanism underlying successful program interventions (Bandura, 1991; Steptoe, 1989; Pallant, 1998). Yet few studies have addressed this issue. Following participation in the program, it is expected that children will report increases in optimistic attributions, self-efficacy, and productive problem-focused coping strategies, together with decreases in the use of non-productive, emotion-focused coping strategies.

Method

Participants:

Class groups of Grades 5 and 6 students from six public elementary schools in Victoria, Australia, together with their teachers participated in the study. Three of the schools were small, rural schools and the remaining schools were in large, regional country centers. Parents of 87 student participants gave consent for their children to complete the questionnaires pertaining to the study. Subsequently, all student participants individually agreed to participate resulting in a response rate of 83 percent. The student participants were almost exclusively from Anglo-European backgrounds and from low to middle socio-economic backgrounds. The student sample of 49 males and 38 females ranged in age from 9.5 to 13 years (M = 11.21, SD = .66).

Instruments:

Children's Attributional Style Questionnaire (CASQ; Seligman et al., 1984). The CASQ is a self-report measure consisting of 48 forced-choice items describing, in equal

numbers, hypothetical positive and negative events. For each item, respondents are required to choose between two possible reasons for the cause of the hypothetical event. The resulting positive and negative scales measure the extent to which respondents attribute good and bad events to internal, stable, and global causes. An overall score for attributional style is obtained by subtracting the scores for negative events from those obtained for positive events. Higher scores are indicative of a more optimistic attributional style. Cronbach's alpha internal consistency reliablity is moderate at .62 for the overall composite score (Gladstone & Kaslow, 1995). Test-retest reliability of .61 over a 3-month period for this score has also been found (Nolen-Hoeksema et al., 1986).

Children's Coping Scale (CCS; adapted from the *Adolescent Coping Scale* (ACS), Frydenberg & Lewis, 1993). The 78-item CCS comprises 18 distinct coping strategies and three coping styles. In addition to simplifying some of the wording and omitting question 27 pertaining to drug use, the adapted version of the scale requires children to indicate on a 3-point scale the extent to which each coping strategy is used. As the number of items for each coping strategy ranged from 3 to 5, a multiplier was used to scale all strategy scores in the range of 5 to 15. Three coping styles, derived from an exploratory factor analysis of coping strategies on a separate sample of 216 children, provide support for the same grouping of coping strategies as found for the ACS. Internal reliability coefficients as measured by Cronbachs' alphas were .89 for Productive coping, .82 for Reference to Others and .85 for Non-productive coping (Cunningham, Brandon & Frydenberg, 1999). The Productive coping style, which consists of items referring to problem-solving, working hard, spending time with friends, belonging, focusing on the positive, relaxation, and physical recreation, combines strategies which

focus on solving the problem or acting on the concern while remaining physically healthy and socially connected. Reference to Others includes strategies for seeking social support from others in the social, social action, spiritual and professional domains. The Non-Productive coping style which can be considered as avoiding the problem because of an inability to cope with the concern, was made up of strategies relating to worry, wishful thinking, not coping, tension reduction, ignoring the problem and keeping to oneself. Scores for the Productive and Non-Productive coping styles range from 35 to 105 with higher scores indicating greater use of the particular coping style.

Perceived Control of Internal States Inventory (PCOISI; Pallant, 1998). The 18-item PCOISI is a uni-dimensional self-efficacy measure that requires respondents to tick on a 4-point scale the extent of their agreement with various statements pertaining to the control they have over their thoughts, feelings, and behavior. The scale was revised for use with children so those items that contained double negatives were rewritten. In this study, the resultant Cronbach alpha was .78. Scale scores ranged from 5 to 90 with higher scores indicating higher self-efficacy.

The Program

"Bright Ideas: Skills for Positive Thinking" (Brandon & Cunningham, 1999a, 1999b) consists of eight weekly 60-90 minute sessions, and includes a comprehensive manual for facilitators teaching optimistic thinking skills, together with a student workbook. The program material is modeled on Seligman's (1995) work and covers the four basic skills of optimistic thinking, namely (1) listening to our self-talk; (2) evaluating the accuracy of our self-talk; (3) generating alternative attributions; and (4) challenging catastrophic

thinking (McWhirter, McWhirter, McWhirter & McWhirter, 1999). Children are taught to dispute negative self-talk in response to real and hypothetical events along internal, stable and global dimensions within the framework of rational-emotive education (Ellis, 1998). Learning is facilitated through the use of stories, cartoons, hypothetical examples, practice, and role-plays. The program has been described in more detail elsewhere (e.g. Brandon et al., 1999).

Procedure

Class teachers attended a 3-hour workshop prior to program implementation in which they were briefed in the program principles and provided with detailed step-by-step facilitator notes and student workbooks. Teachers were also briefed in test administration and asked to read all questionnaire items out to their class. Children completed the CASQ, the CCS, and the PCOISI before and after participating in the program. The program was facilitated by teachers and conducted over an eight-week period within the normal hours of the school day.

Results

Prior to analyses, data were screened for missing values, possible response sets, outliers, and normality (Tabachnick & Fidell, 1996). The responses from 3 students were subsequently deleted. Nine remaining students had missing data, with no more than 3 percent missing data for a single respondent. Missing values were replaced with the nearest mean integer value.

A two-way mixed-design Multivariate Analysis of Variance (MANOVA), with sex as the between-subjects factor, time (pre- and post-program) as the repeated-measures factor, and dependent variables of attributional style, self-efficacy, and productive and non-productive coping styles, was conducted. The only significant effect found was for time (Wilks' $\Lambda = .61$, $F(4, 79) = 12.41$, $p < .001$, $\eta^2 = .39$). Table 1 displays the means and standard deviations for attributional style, self-efficacy, and productive and non-productive coping styles at pre- and post- program, together with post-hoc univariate F values. Comparison of mean scores pre- and post- program found significant improvements in children's scores on attributional style and self-efficacy, and a significant reduction in the use of non-productive coping strategies. No significant difference was found in the use of self-reported productive coping strategies pre- and post- program.

Insert Table 1 about here

To investigate specific changes in the use of non-productive coping strategies pre- and post- program, a further one-way MANOVA with time as the repeated-measures factor, and dependent variables the 7 coping strategies forming the Non-productive coping style, was conducted. A significant main effect for time was found (Wilks' $\Lambda = .70$, $F(7, 76) = 4.64$, $p < .001$, $\eta^2 = .30$). Table 2 reports the means and standard deviations of pre- and post-program scores for the seven non-productive coping strategies, together with the F ratios derived from univariate post-hoc analyses. Children

reported reduced use of the non-productive coping strategies of worry, wishful thinking, not coping, ignoring the problem and self-blame after participating in the program.

Insert Table 2 about here

Discussion

The primary goal of this study was to evaluate the effectiveness of teachers implementing a universal health promotion program designed to increase the coping resources of preadolescents. As expected, children reported a more optimistic attributional style and an increased sense of control over their thoughts, feelings, and behavior after participating in the program. Children also reported reduced usage of the non-productive coping strategies of worry, wishful thinking, not coping, ignoring the problem and self-blame. However, contrary to expectations, no change was found in the reported use of productive coping strategies post-program.

The results indicate that, by teaching children to think more optimistically, children also learned to use fewer maladaptive coping strategies. In describing the coping tendencies of adults who habitually think in more pessimistic ways, Carver and Scheier (1999) included the strategies of focusing on distress, suppression of thoughts, self-distraction, giving up, cognitive avoidance, and overt denial. These strategies are similar to the strategies of worry, wishful thinking, not coping and ignoring the problem that children reported using less frequently after participating in the program, and may covary with attributional style. The specific aim of the program was to change

maladaptive attributions for negative events along internal-stable-global dimensions. As such, the emphasis of the program was directed at teaching young people what not to do, rather than what to do. This may explain why the program did not effect changes in reported use of productive coping strategies. A decrease in the coping strategy of blaming oneself could be expected because the program specifically addressed internal attributions. The fact that other non-productive coping strategies that were not directly addressed in the program material also reduced following participation in the program suggests that attributions for events play a role in the selection of coping strategies (Bruder-Mattson & Hovanitz, 1990). Self-efficacy beliefs were also stronger post-program. It is possible that attributions alter the perceived nature of the stressor, thus increasing self-efficacy beliefs, and thereby influencing the coping process.

Prevention intervention programs redressing emotional well-being have frequently been criticized on the basis of showing positive outcomes as demonstration programs yet failing to maintain these results when disseminated more widely into the community (Elias, 1991). While large effect sizes are rarely found in universal prevention programs, since most participants are functioning in the normal range prior to participating in the program, the moderate effect size found in this study is impressive and compares favorably to effect sizes for similar studies in the health promotion prevention area (Durlak & Wells, 1997). The size of the effect supports the capacity of teachers to implement rational emotive education programs within their regular curricula. In fact, the role of the classroom teacher in reinforcing the program principles and skills within the context of everyday situations on an on-going basis may be a key to the success of the program in the longer term.

Despite the promising findings reported in this study, the study has several limitations. Methodological limitations include the lack of a control group and an inherently nested design. Furthermore, evaluations in which only pre- and post-program measures are used frequently show improvements in the short term yet may not be indicative of any longer-term gains. Future longitudinal studies in which class groups are randomly assigned to treatment and control groups are required. The study also relied exclusively on children's self-report measures. Mono-method bias, together with uncertainty regarding the connections between the questionnaires used in this study and actual adaptive functioning, suggest future studies supplement children's self-reports with alternate data collection methods such as teacher and parent reports, behavioral observations and diagnostic interviews.

Any program within a school's curriculum needs to be justified as beneficial for all students. Given that a more optimistic attributional style has been related to improvements in student motivation for learning, classroom behavior and dynamics, and the acquisition of meta-cognitive skills (Boekaerts, 1996; Dweck & Sorich, 1999), future studies could address the program's effect on these variables. Findings from such studies would strengthen the potential benefits that may be derived from integrating universal health promotion programs within school curricula, and may be critical to the adoption of such programs by school systems.

Seligman (1995) maintained that the way to enhance resilience to depression is to inoculate all young people with optimistic thinking skills. Reducing overall risk for depression is only likely to be achieved through low-cost, non-intrusive school programs

that utilize structures and systems already in place. This study provides support for the feasibility of enhancing the coping resources of young people within an environment that is already part of all young people's lives. The curriculum is the primary planning and organizational unit of school systems (Elias, 1991) and the longer-term success and viability of any universal preventive program redressing emotional well-being may ultimately depend upon the extent to which such programs can be integrated into the core curriculum practices of schools.

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Table 1.
Means, standard deviations, and F ratios for attributional style, self-efficacy, and productive and non-productive coping at pre- and post-program.

	Pre-program		Post-program		
Measure	*M*	*SD*	*M*	*SD*	*F*(1, 82)
Attributional style	4.20	4.51	6.30	4.91	18.65**
Self-efficacy	48.65	7.51	51.06	8.21	9.73*
Productive coping	80.33	9.18	78.89	10.13	3.14
Non-productive coping	68.88	7.20	65.74	7.99	27.93**

* $p < .01$; ** $p < .001$

Table 2.
Means, standard deviations, and F ratios for non-productive coping strategies at pre- and post-program.

	Pre-program		Post-program		
Measure	*M*	*SD*	*M*	*SD*	*F*(1,82)
Worry	9.88	2.06	9.35	2.18	6.48*
Wishful Thinking	11.46	1.81	10.98	1.84	6.36*
Not Cope	9.52	1.81	9.11	1.63	4.86*
Tension Reduction	8.99	1.66	8.70	1.69	2.48
Ignore	9.70	1.90	9.23	1.96	5.11*
Self-blame	9.37	2.08	8.76	2.38	8.88**
Keep to Self	9.94	2.05	9.63	1.96	2.04

* $p < .05$; ** $p < .01$